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United States Patent [19]**Moriwaki et al.**[11] **Patent Number:** **5,489,625**[45] **Date of Patent:** **Feb. 6, 1996**[54] **DENTAL ADHESIVE COATING BASE
COMPOSITION AND ORAL COMPOSITION**[75] Inventors: **Yutaka Moriwaki**, Wakayama; **Yujiro Uchiyama**; **Akio Tani**, both of Osaka; **Shigeaki Matsumoto**, Nara; **Hiroshi Furumichi**; **Takao Makishima**, both of Osaka; **Kiyoshi Maekawa**, Shiga, all of Japan[73] Assignees: **Sunstar Kabushiki Kaisha; Osaka Organic Chemical Industries Co., Ltd.**, both of Osaka, Japan[21] Appl. No.: **982,049**[22] Filed: **Nov. 25, 1992****Related U.S. Application Data**

[63] Continuation of Ser. No. 360,694, Jun. 2, 1989, abandoned, which is a continuation-in-part of Ser. No. 122,801, Nov. 19, 1987, abandoned.

[30] **Foreign Application Priority Data**

Nov. 19, 1986 [JP] Japan 50-265335

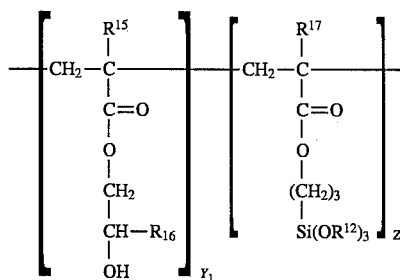
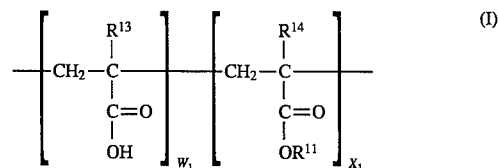
[51] Int. Cl.⁶ **A61K 6/083; C08F 230/08**[52] U.S. Cl. **523/118; 523/116; 424/52; 424/57; 424/55; 526/279**[58] Field of Search **523/116, 109, 523/118; 526/279; 424/52, 55, 57**[56] **References Cited****U.S. PATENT DOCUMENTS**

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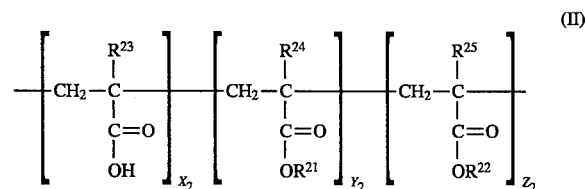
Primary Examiner—Peter F. Kulkosky*Attorney, Agent, or Firm*—Sughrue, Mion, Zinn, Macpeak & Seas[57] **ABSTRACT**

A dental adhesive coating base composition comprising a copolymer represented by formula (I) or (II) in an amount of from 5 to 40 wt % based on the total amounts of the composition; and an oral composition comprising at least

one of a copolymer represented by formula (I) and a copolymer represented by formula (II) in an amount of from 5 to 40 wt % based on the total amount of the composition, at least one of a phosphoric acid and tartaric acid present in an amount effective to increase the solubility of fluoride in the composition, up to an amount of 6 wt % or less based on the total amount of the composition; a fluorine-containing compound in an amount effective for dental caries prevention; and a volatile nonaqueous solvent are disclosed:



wherein R¹¹ represents an alkyl group having from 1 to 10 carbon atoms; R¹² represents a lower alkyl group having from 1 to 2 carbon atoms, provided that three R¹² groups must be the same; R¹³, R¹⁴, R¹⁵, R¹⁶ and R¹⁷, which may be the same or different, each represents a hydrogen atom or a methyl group; W₁ is from 5 to 30 wt %; X₁ is from 20 to 60 wt %; Y₁ is from 20 to 60 wt %; and Z₁ is from 0.2 to 20 wt %;



wherein R²¹ and R²², which may be the same or different, each represent an alkyl group having from 1 to 10 carbon atoms; R²³, R²⁴, and R²⁵, which may be the same or different, each represent a hydrogen atom or a methyl group, provided that at least one of the groups R²¹ and R²², and R²⁴ and R²⁵, respectively, are different from each other; X₂ is from 5 to 80 wt %; Y₂ is from 10 to 95 wt %; and Z₂ is from 0 to 85 wt %.

16 Claims, No Drawings